



MURSATT CHEMICALS LIMITED
11 REGALCREST COURT
WOODBIDGE; ONTARIO, CANADA; L4L 8P3
(905)-850-8444

PRODUCT: CHLOR-OUT

CODE: MUR0005

Section 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER/SUPPLIER..... MURSATT CHEMICALS LIMITED
11 REGALCREST COURT
WOODBIDGE, ONTARIO
CANADA
L4L 8P3
PREPARED BY..... REGULATORY AFFAIRS
PREPARATION DATE..... May11/11
PRODUCT NAME..... CHLOR-OUT
PRODUCT CODE..... MUR0005
CHEMICAL FORMULA..... MIXTURE.
MOLECULAR WEIGHT..... N.AV.
CHEMICAL FAMILY..... NONE KNOWN.
MATERIAL USE..... REDUCING AGENT FOR SPA WATER.
EMERGENCY PHONE NO..... CANUTEC (613)-996-6666.

Section 02: HAZARDS IDENTIFICATION

ROUTE OF ENTRY:
SKIN CONTACT..... DUST OR MIST MAY CAUSE SKIN IRRITATION FROM PROLONGED CONTACT.
SOLUTIONS WILL CAUSE SKIN IRRITATION.
SKIN ABSORPTION..... N.AV.
EYE CONTACT..... DUST OR MIST MAY IRRITATE OR BURN EYES. SOLUTIONS WILL IRRITATE.
INHALATION..... INHALATION OF DUST MAY CAUSE COUGHING AND SNEEZING.
INGESTION..... MAY RESULT IN IRRITATION OF THE MOUTH AND GASTROINTESTINAL TRACT.
EFFECTS OF ACUTE EXPOSURE..... SEE ABOVE.
EFFECTS OF CHRONIC EXPOSURE..... N.AV.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE..... N.AV.

Section 03: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients	%	Exposure Limit	C.A.S.#	LD/50, Route,Species	LC/50 Route,Species
SODIUM SULFITE	95-100	SEE SECTION 11	7757-83-7	SEE SECTION 11	SEE SECTION 11
SODIUM SULFATE	1-2	SEE SECTION 11	7757-82-6	SEE SECTION 11	SEE SECTION 11
COBALT SULFATE	0.04	SEE SECTION 11	10124-43-3	SEE SECTION 11	SEE SECTION 11

Section 04: FIRST AID MEASURES

EYE CONTACT..... IN CASE OF CONTACT, OR SUSPECTED CONTACT, IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND GET MEDICAL ATTENTION IMMEDIATELY AFTER FLUSHING.
SKIN CONTACT..... IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION. REMOVE CONTAMINATED CLOTHING AND LAUNDRER BEFORE REUSE.
INHALATION..... REMOVE PERSON TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GET IMMEDIATE MEDICAL ATTENTION.
INGESTION..... DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON. SEEK IMMEDIATE MEDICAL ATTENTION. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS.
NOTES TO PHYSICIAN..... TREATMENT BASED ON SOUND JUDGMENT OF PHYSICIAN AND INDIVIDUAL REACTIONS OF PATIENT. NOTE POTENTIAL FOR ANAPHYLACTIC SHOCK WITH ALLERGIC INDIVIDUALS.

Section 05: FIRE FIGHTING MEASURES

T.D.G. FLAM. CLASS..... NON FLAMMABLE.
FLAMMABILITY..... NON FLAMMABLE.
IF YES, UNDER WHICH CONDITIONS?
EXTINGUISHING MEDIA..... USE DRY CHEMICALS, CO2, ALCOHOL FOAM OR WATER SPRAY. .
SPECIAL PROCEDURES..... FIRE FIGHTERS SHOULD WEAR FULL PROTECTIVE CLOTHING, INCLUDING SELF-CONTAINED BREATHING EQUIPMENT.
FLASH POINT (C), METHOD..... NONE.
AUTO IGNITION TEMPERATURE..... N.AV.
UPPER FLAMMABLE LIMIT (% BY VOL.).... N.AP.
LOWER FLAMMABLE LIMIT (% BY VOL.)... N.AP.

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Section 05: FIRE FIGHTING MEASURES

EXPLOSION DATA..... N.AP.
 EXPLOSIVE POWER..... N.AP.
 RATE OF BURNING..... N.AP.
 SENSITIVITY TO STATIC DISCHARGE..... N.AP.
 SENSITIVITY TO IMPACT..... N.AP.
 HAZARDOUS COMBUSTION PRODUCTS.. SEE HAZARDOUS DECOMPOSITION PRODUCTS.

Section 06: ACCIDENTAL RELEASE MEASURES

LEAK/SPILL..... WEAR APPROPRIATE PROTECTIVE EQUIPMENT. PREVENT FROM ENTERING INTO SOIL, DITCHES, SEWERS, WATERWAYS AND/OR GROUNDWATER. SWEEP UP SPILLED SOLID MATERIAL BEING CAREFUL NOT TO CREATE DUST. CAUTIOUSLY SPRAY RESIDUE WITH PLENTY OF WATER. PROVIDE VENTILATION TO CLEAR SULFUR DIOXIDE FUMES WHICH MAY BE GENERATED BY THE SODIUM SULFITE COMPONENT.

Section 07: HANDLING AND STORAGE

HANDLING PROCEDURES AND EQUIPMENT AVOID CONTACT WITH EYES, SKIN AND CLOTHING. DO NOT BREATHE DUST. DO NOT CONSUME FOOD, DRINK OR SMOKE WHILE HANDLING THIS MATERIAL. USE GOOD PERSONAL HYGIENE. KEEP AWAY FROM ACIDS AND OXIDIZING AGENTS.
 STORAGE NEEDS..... STORE IN A COOL, DRY, WELL VENTILATED AREA, AWAY FROM HEAT AND IGNITION SOURCES. PLACE AWAY FROM INCOMPATIBLE MATERIALS. STORE IN ACCORDANCE WITH GOOD INDUSTRIAL PRACTICES.

Section 08: EXPOSURE CONTROLS AND PERSONAL PROTECTION

GLOVES/ TYPE..... FOR HANDLING DRY MATERIAL, WEAR COTTON GLOVES AND FULL WORK CLOTHING, INCLUDING LONG-SLEEVED SHIRT AND TROUSERS.
 RESPIRATORY/TYPE..... WHERE REQUIRED, USE A NIOSH-APPROVED RESPIRATOR FOR DUST, MIST AND/OR SULFUR DIOXIDE GAS, AS CONDITIONS INDICATE. SOME EXPOSURES MAY REQUIRE A NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS OR SUPPLIED-AIR RESPIRATOR.
 EYE/TYPE..... SAFETY GLASSES. DO NOT WEAR CONTACT LENSES.
 SKIN PROTECTION..... SKIN CONTACT SHOULD BE PREVENTED THROUGH THE USE OF SUITABLE PROTECTIVE CLOTHING, GLOVES AND FOOTWEAR, SELECTED FOR CONDITIONS OF USE AND EXPOSURE POTENTIAL. CONSIDERATION MUST BE GIVEN BOTH TO DURABILITY AS WELL AS PERMEATION RESISTANCE.
 OTHER/TYPE..... ENSURE THAT EYEWASH STATIONS AND SAFETY SHOWERS ARE PROXIMAL TO THE WORK-STATION LOCATION.
 ENGINEERING CONTROLS..... LOCAL EXHAUST IF DUSTY CONDITIONS EXIST OR IF THERE IS A RELEASE OF SULFUR DIOXIDE GAS. DO NOT USE IN UNVENTILATED SPACES.
 GENERAL HYGIENE CONSIDERATIONS... HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICE. WHEN USING, DO NOT EAT, DRINK OR SMOKE. HANDS AND/OR FACE SHOULD BE WASHED BEFORE BREAKS AND AT THE END OF THE SHIFT. .

Section 09: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE..... SOLID. OFF-WHITE.
 ODOUR..... ODOURLESS.
 ODOUR THRESHOLD..... N.AV.
 VAPOUR PRESSURE (MMHG)..... N.AP.
 VAPOUR DENSITY (AIR=1)
 BY VOLUME..... N.AP.
 BY WEIGHT..... N.AP.
 EVAPORATION RATE..... N.AP.
 BOILING POINT..... N.AP.
 PH..... 5% SOLUTION IS APPROX. 8.
 SPECIFIC GRAVITY (WATER=1)..... 2.63.
 SOLUBILITY IN WATER (% W/W)..... 17% AT 10C (50F); 28% AT 33C (92F).
 COEFFICIENT OF WATER/OIL DIST..... N.AV.

Section 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY:
 YES..... STABLE.
 NO, WHICH CONDITIONS?
 CONDITIONS TO AVOID..... AVOID HIGH TEMPERATURES (AT DECOMPOSITION, 900C (1652F)); YIELDS SULFUR DIOXIDE GAS AND HAZARDOUS RESIDUE.
 COMPATABILITY WITH OTHER
 SUBSTANCES:
 YES

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Section 10: STABILITY AND REACTIVITY

NO, WHICH ONES?..... STRONG OXIDIZERS. CONTACT WITH ACIDS.
 REACTIVITY CONDITIONS:..... CONTACT WITH INCOMPATIBLES.
 HAZARDOUS PRODUCTS OF DECOMPOSITION..... SULFUR DIOXIDE AND SODIUM SULFIDE RESIDUE.
 HAZARDOUS POLYMERIZATION..... WILL NOT OCCUR.

Section 11: TOXICOLOGICAL INFORMATION

EXPOSURE LIMIT OF MATERIAL..... N.AV.
 LC 50 OF MATERIAL, SPECIES & ROUTE.. SODIUM SULFITE: INHALATION LC50 (RAT) > 22 MG/L 1 H; INHALATION LC50 (RAT) > 5.5 MG/L 4 H.
 LD 50 OF MATERIAL, SPECIES & ROUTE.. SODIUM SULFITE: ORAL LD50 (RAT) = 820 MG/KG. SODIUM SULFATE: ORAL LD50 (RAT) > 10000 MG/KG. COBALT SULFATE: ORAL LD50 (RAT) = 424 MG/KG.
 CARCINOGENICITY OF MATERIAL..... SODIUM SULFITE: IARC - GROUP 3. ACGIH - NOT LISTED. SODIUM SULFATE: IARC & ACGIH - NOT LISTED. COBALT SULFATE: IARC - GROUP 2; ACGIH - NOT LISTED.
 REPRODUCTIVE EFFECTS..... N.AV.
 MUTAGENICITY..... N.AV.
 TERATOGENICITY..... N.AV.
 IRRITANCY OF MATERIAL..... SEE SECTION 2.
 SENSITIZING CAPABILITY OF MATERIAL. N.AV.
 SYNERGISTIC MATERIALS..... N.AV.

Section 12: ECOLOGICAL CONSIDERATIONS

ECOLOGICAL INFORMATION..... SODIUM SULFITE: LC50 96 H (LEUCISCUS IDUS) 220 - 460 MG/L STATIC. SODIUM SULFATE: LC50 96 H (PIMEPHALES PROMELAS) 13500-14500 MG/L; LC50 96 H (PIMEPHALES PROMELAS) 6800->10000 MG/L STATIC; LC50 96 H (LEPOMIS MACROCHIRUS) 3040-4380 MG/L STATIC; LC50 96 H (LEPOMIS MACROCHIRUS) 13500 MG/L. COBALT SULFATE: EC50 72 H PSEUDOKIRCHNERIELLA SUBCAPITATA 0.4 - 72 MG/L.

Section 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL..... DISPOSE IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.

Section 14: TRANSPORT INFORMATION

TDG CLASSIFICATION..... NOT REGULATED.
 PROPER SHIPPING NAME..... N.AP.
 UN NUMBER..... N.AP.
 PACKING GROUP..... N.AP.
 SPECIAL SHIPPING INSTRUCTIONS..... NOT REGULATED.

Section 15: REGULATORY INFORMATION

CPR COMPLIANCE..... THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CPR AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.
 WHMIS CLASSIFICATION..... THIS IS NOT A WHMIS CONTROLLED PRODUCT.
 DSL..... LISTED.

Section 16: OTHER INFORMATION

N.AP.=NOT APPLICABLE
 N.AV.=NOT AVAILABLE
 OTHER INFORMATION..... THE DATA IN THIS MSDS RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED HEREIN AND DOES NOT RELATE TO USE IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY PROCESS. THIS DATA IS OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS PRODUCT SPECIFICATIONS. NO WARRANTY, EITHER EXPRESSED OR IMPLIED, IS HEREBY MADE. THE RECOMMENDED INDUSTRIAL HYGIENE AND SAFE HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTEXT OF THE INTENDED USE AND DETERMINE WHETHER THEY ARE APPROPRIATE.